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ABSTRACT

The inappropriateness of using standardized achievement tests to measure the cognitive skills of Navajo children was demonstrated in a 1975-76 case study of 17 Navajo preschool and daycare children in Los Angeles. The Circus Receptive Vocabulary Test and the Circus Quantitative Concept Test were given individually to each child. Scores were compared with a sample of 66 randomly drawn children in the Tribal American preschool and daycare programs, and with national results. On both tests, the Navajo children in the study scored the lowest, with results below the national average. Children who had most difficulty with the tests were the youngest and lived in the least acculturated Navajo households, suggesting that the acculturative status of the child's household and the age of the child influenced the child's response to the testing situation. The study concluded that because complex behavioral interactions involved in testing situations are almost never reported, "objective" tests results take on a reality that does not exist. Testing all individuals with the same instrument regardless of individual/cultural backgrounds is a misleading and culture-bound method of assessing and understanding the abilities of any given individual. (NEC)

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The Inappropriateness of Standardized Testing in a Culturally Heterogeneous Milieu: A Navajo Example

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AUTHOR'S STATEMENT

George M. Guilmet is an Associate Professor in the Department of Comparative Sociology at the University of Puget Sound, Tacoma, Washington. The author wishes to thank L.L. Langness, Ronald Gallimore, D.R. Price-Williams, K.T. Kernan, and P.Z. Snyder for their assistance and encouragement. He is indebted to the Mental Retardation and Child Psychiatry Research Program, UCLA Neuropsychiatric Institute, for making this research possible. Finally, he wants to thank the National Institute of Child Health and Human Development for the Traineeship, USPHS Grant No. HD-04612 and HD-00345, which provided the necessary financial support.

ABSTRACT

The inappropriateness of using standardized achievement tests to measure the cognitive skills of Navajo children is described. A case study is discussed in which two types of achievement tests were used to assess the vocabulary and quantitative skills of seventeen Navajo pre-school and daycare children in Los Angeles. The test instruments and testing procedures are described. The "objective" results are presented. And, the unusual behavioral reactions of four Navajo children to the testing situation are described and analyzed. Finally, the test results are critically examined leading to a discussion of the usefulness and accuracy of the test results.

The purpose of this paper is to describe the inappropriateness of using standardized achievement tests to measure the cognitive skills of Navajo children. This will be accomplished by describing the problems encountered in administering the Circus Receptive Vocabulary Test and the Circus Quantitative Concepts Test to seventeen Navajo and seven Caucasian preschool and daycare children in Los Angeles. After the test instruments and testing procedures have been described, the "objective" results will be presented in the typical statistical manner. Then, the unusual behavioral reactions of four Navajo children to the testing situation will be described leading to a critical discussion of the usefulness and accuracy of the test results.

RESEARCH CONTEXT

This study was conducted during the 1975-1976 school year in the preschool and daycare classrooms and playgrounds of the Tribal American Consulting Corporation (TACC), an Indian-operated, community-action organization located in the Los Angeles area. TACC provided a number of services to 210 Indian children and their families. A smaller number of Caucasian and Mexican-American children also received services from this corporation.

The children in Tribal American were distributed in ethnically mixed classrooms and playgrounds. The sex and ethnicity of the teachers and teachers' aides varied from classroom to classroom and from playground to playground, but there was at least one Native American instructor in each setting. During the research, the sex and ethnicity of the instructors were: one Caucasian male, five Caucasian females, one Native American male and seven Native American females. Three of the Native American females were Navajo.

SAMPLE SELECTION

Sixteen children were enrolled in the 1975-1976 school year whose father and mother reported themselves as being "full blood" or "4/4" Navajo. One more child was present whose mother was "4/4" Navajo and whose father was both unlisted and absent from the home. The average age of the seventeen Navajo children in the sample was four-years three-months. Eight were males and nine were females.

Parents of thirteen of the seventeen Navajo children were asked to assess by questionnaire the speech patterns in their homes. These parents reported that they frequently spoke Navajo in the home. They also reported that they spoke Navajo in the home to other adults much more frequently than they spoke Navajo to their children. Finally, all but one questionnaire reported that the children of interest in the household spoke Navajo in the home "not very often" or "never." Several parents described by personal interview their reluctance to speak Navajo to their children. They believed that speaking Navajo to their children interfered with the process through which their children learned English. Unfortunately, this questionnaire data may not represent accurately the sociolinguistic situation in the homes. Indeed, Bernard and Killworth (1977) have shown that in communications research informant cognition of interaction is not an accurate indicator of actual interactive behavior.

A list of all the Caucasian children in the preschool and daycare programs was also compiled. Only 7 children were reported as being completely Caucasian. Two of these children had no father presently living at home. Four were females and three were males. Their average age was four-years one-month.

This research was intended to be a detailed study of a specific school situation. Knowing that the sample sizes are rather small, particularly for the Caucasian children, we should be cautious when extending conclusions based on this research to other Navajo and Caucasian populations. Since the methodology is replicable, direct comparisons between these research populations and others are possible.

RESEARCH METHODS

The American Indian Education and Early Childhood Education funding grants which supported Tribal American during this period stipulated that the children should be given achievement tests assessing their vocabulary and numerical skills. Upon the request of TACC personnel, this researcher volunteered to administer the Circus Receptive Vocabulary Test and the Circus Quantitative Concepts Test, created by the Educational Testing Service, to the seventeen Navajo and seven Caucasian children. Each child was tested individually. Only one test was given each day and no time limit was set.

The children were familiar with me by the time I administered the test for I had been informally observing and participating in classroom and playground activities for at least a month prior to testing (Guilmet, 1981, 1979a, 1979b, 1978). I would walk into the classroom, call a child's name, and take him/her to a separate room where the test was given, free from the noise of the classrooms. Some of the Navajo children seemed glad to be tested, but most showed little emotion other than complete silence. I tried to talk as softly as possible and to reassure each child.

These Circus tests are in no way culture-fair nor do they pretend to

be. They say nothing about intelligence or any related construct. However, they are considered by many educators to be a measure of the vocabulary and numerical performances of a child in a testing situation when English is the language used for communication. These tests are used by educators in determining the extent to which a child is prepared to succeed according to Western standards in public schools.

In the vocabulary test the child is presented with a piece of paper with three pictures on it; for example, a picture of an ear, a person's heel and a person's toes. The child is asked to mark with a crayon the picture of the heel. Similarly, a picture of a girl petting a dog, holding a dog and throwing a ball to a dog is presented to the child. The child is asked in this case to mark the picture of the girl holding the dog.

The quantitative test also presents the child with a piece of paper with three pictures on it. The child is likewise asked to mark one of the choices. For example, the child is presented with a picture of one lion, a picture of three lions, and a picture of five lions and he/she is asked to mark the picture showing three lions. Or, two groups of balls are shown to the child and he/she is asked to mark the group that has more balls.

RESULTS

The mean score for the seventeen Navajo children on the Circus Receptive Vocabulary Test was 14.59. The mean score for the seven Caucasian children on the same test was 20.57. A sample of 65 randomly drawn children in the Tribal American preschool and daycare programs, tested in the

same time period, scored 17.21 on this vocabulary test. Nationwide, children averaging 4 years and 9 months scored a mean of 27.8. The maximum possible score on the test is 40.0

The mean score for the seventeen Navajo children on the Circus Quantitative Concepts Test was 15.41. The mean score for the seven Caucasian children on this quantitative test was 22.71. A sample of 66 randomly drawn children in the Tribal American preschool and daycare programs, tested in the same time period, scored 19.18 on this test. Nationwide, children averaging 4 years and 9 months scored a mean of 28.1. The maximum possible score is 40.0.

The patterns on the two tests were the same. The Navajo children scored the lowest. The random population of Tribal American children scored the next highest. The Caucasian children in Tribal American scored higher than the first two groups but lower than the average for the nation. The mean ages of the Navajo and Caucasian samples are respectively six and eight months younger than the mean age of the nationwide sample. However, the random population of Tribal American children tested in October showed no significant change in performance on either test when retested in January. Thus, the patterns on the two tests mentioned above would probably be maintained if the mean ages of the test groups were the same.

The seven Caucasian children are from low-income households. To be eligible for state and federally funded daycare and preschool programs the income of the child's parents must be comparatively small. These test results are consistent with the general finding that children from low

socioeconomic-status homes score lower on standardized tests than children of the same age from middle- and high-income families.

DISCUSSION

The best way to give context and meaning to the low scores of the Navajo children is to describe the kinds of experiences I encountered while admistering these tests. Consider the interesting behavioral reactions of the following four Navajo children to the testing situation.

Caryn (3 years and 11 months) was absolutely quiet prior to testing. She watched me closely, did not appear afraid or happy but mildly curious. This was her second year in Tribal American, so she had been tested at least three times last year. Caryn was unique in that each time I would ask her to do something, she would repeat my statement. For example, when I said "Mark the picture of the biggest monkey" she said "maak da beegest munkey." Her repetition was rarely complete, nor was it phonetically the same as mine. After repeating my statement she would randomly, or almost randomly, mark one of the three pictures in front of her. Over and over through two tests and eighty questions she would repeat my statement and randomly mark a picture. Caryn also had a hard time staying on task; she would look around the room, then at me, then at the pencil, etc. She never initiated conversation, only repeated.

Sherry (2 years and 10 months) is Caryn's younger sister. She was neither afraid nor happy, but probably more hesitant to be tested than her sister. This was her first year at Tribal American and her first exposure to a testing situation. Sherry's response was absolute silence from the time of leaving the class until she returned. I could not get

her to understand the idea of testing. She repeatedly took the crayon in hand and drew a line through all three choices. No matter how I tried to explain to her the task, she simply drew her line. Near the end of each test, I marked the picture where she started her line. This is the only reason she registered any score at all.

Pat (2 years and 10 months) did not utter a word during the testing. Rather, he sat in his chair and watched me. He did not respond in any way to anything I did. I could not get him to pick up the crayon or mark one picture in either testing session. He did not appear to be too afraid or mad, but he did appear to be unsure of the situation. This was his first year at the school and probably his first experience with a testing situation.

Tony (4 years and 2 months) is Pat's older brother. During the testing sessions I asked him some questions but he did not respond. Tony did not talk at any time during the tests even though this was his second year in the preschool. In contrast to his younger brother, Tony had prior exposure to testing and knew that he should make a choice between the pictures given him. He was so eager to get finished with the tests that he never waited for the instructions to be given. I would only get as far as "mark the . . ." and he would mark it. Near the end of each test I held his crayon until the instructions were given. I never knew whether Tony understood what was expected or not.

The above children were among the quietest in individualized work periods in classroom situations (Guilmet, 1978) and on the playground (Guilmet, 1981). These children spent a great deal of time involved in

object play in the classroom. They attended visually to objects, instructors and other students much more often than the other Navajo children. These children rarely spoke even if spoken to by an instructor or another child. If they spoke they did so in English. Their physical motions were deliberately slow and reserved. When watching student-student, student-instructor, and instructor-instructor interactions, they appeared to be studying them to learn how to participate in social activities.

A Navajo college student at the University of California at Los Angeles, a fluent Navajo speaker, volunteered to help administer these tests to some of the other children in Tribal American. I asked her to talk with Sherry, Pat and Tony to see if she could get them to speak up. She tried speaking to them in both Navajo and English, but she had no more luck in getting them to communicate than I did. They simply would not speak. I asked her if she would retest the Navajo children, giving the instructions in Navajo. She refused, stating that there was no need for such a study. She said that these children needed enhanced training in English in order to be able to do well in school, not more studies showing that they could perform tests in Navajo. I would have liked to have designed a test which measured their vocabulary skills in Navajo. However, her point was well-taken, and I did not push the subject. Neither I nor the teachers had ever heard, nor ever would hear in the entire year, a child spontaneously speak Navajo either in class or on the playground.

Not all the Navajo children had as many problems with the testing situation as the above students. Several Navajo children were quite talka-

tive in English, appeared to understand the testing procedures, and achieved higher scores by responding "appropriately" and quite accurately to each task presented. These children talked much more frequently to instructors and students during individualized work periods in classroom situations (Guilmet, 1978) and on the playground (Guilmet, 1981). These children much more frequently initiated conversations to instructors and students and changed tasks frequently, leaving work unfinished. Indeed, some of these Navajo students assumed an assertive leadership role in organizing student activities. These children's physical motions were rapid and they often verbally demanded instructor attention when they desired it.

It appears that two factors influence the child's response to the testing situation: the acculturative status of the child's household and the age of the child. Let us consider each of these variables in turn.

Based on several indices proven useful for assessing the acculturative status of American Indians in Los Angeles (Price, 1968), the four children who had difficulty with the tests lived in two of the least acculturated Navajo households of the children in Tribal American. Caryn's and Sherry's mother was much more reserved in the presence of strangers, particularly Caucasians, than most of the Navajo parents I met. She was deeply involved in making and selling traditional crafts, and associated primarily with other Indians, especially other Navajos. During their six years in Los Angeles Caryn's and Sherry's parents visited their families on isolated parts of the reservation almost every vacation. They occasionally attended the American Indian Peyote Church during these visits and both speak Navajo fluently.

Pat and Tony's family frequently visited the reservation during the beginning of the school year. Having recently moved to Los Angeles from the reservation, the parents were experiencing difficulty in adjusting to the urban environment. Indeed, Pat and Tony were eventually removed from Tribal American when their family returned to the reservation to live. Both parents were fluent speakers of Navajo and associated predominantly with other Navajos.

In contrast, the Navajo children who had little difficulty with the testing situation lived in the most acculturated Navajo households of the children in Tribal American. The parents of these children had lived in Los Angeles longer, were less involved in reservation life, formed wider peer groups including non-Navajos and non-Indians, and were less involved in the traditional Navajo religion.

The second factor influencing test performance was the age of the child. The older the Navajo child the more "appropriate" his/her response and the higher his/her score. The Navajo children's ages are positively correlated with their numerical scores on the Receptive Vocabulary Test ($n = 17$, $r = .878$, $p = .0001$) and the Quantitative Concepts Test ($n = 17$, $r = .843$, $p = .0001$).[1] It appears that the older the Navajo child, the less his/her fear of the testing situation, the greater his/her understanding of testing procedures and the greater his/her vocabulary and numerical skills in English.

CONCLUSIONS

The major lesson to be learned from this experience is clear. The "objective" test results take on a reality that does not exist because the

complex behavioral interactions involved in the testing situation are almost never reported. Thus, the meaning or lack of meaning of the test results are obscured by a simplistic data reporting procedure.

The experience illustrates a key methodological problem in cross-cultural research: control of data versus understanding of the meaning of observed behavior (Edgerton and Langness, 1974). By testing all individuals with the same instrument no matter what their individual or cultural backgrounds, the tester's task is made more simple. He/she need only scale each individual according to his/her "objective" score and treat each individual according to a prescribed stereotypical pattern which corresponds to the subject's "abilities." While this may be convenient for the tester and the institution he/she represents, it is a misleading and culture-bound method of assessing and understanding the abilities of any given individual. For example, see this author's review of the problems of utilizing cognitive tests among the Eskimo (Guilmet, 1975).

The Bureau of Indian Affairs Task Force on Testing (Blanchard, 1972: 134) recommended the following two policy guidelines:

1. That standardized tests developed on population norms, having as their primary purpose the ranking of students on inferential scales so they may be compared with one another, should be phased out in an orderly but firm manner.

2. That criterion-reference tests tied to curriculum content and integral with educational and behavioral objectives become the tests of choice.

In addition, the Task Force noted that standardized tests are especially harmful to Native Americans because norm-reference tests unfairly discriminate against minority groups. They lead to harmful and

inappropriate stereotyping, and are psychologically harmful as traumatic experiences to the student. Standardized tests also create artificial and unnecessary barriers among students by creating a sense of competition through their ranking and comparing procedures. They become instruments of forced acculturation by their imposition of test-culture values.

This author's experience supports the findings of the Task Force. Standardized tests ignore many cultural factors which cause Navajo children from traditional households to behave "inappropriately" in testing situations. Mowrer has reported that Navajos typically respond with silence in unpredictable social situations (Basso, 1970). Surely testing is unknown and unpredictable to the traditional Navajo child and accounts for the silence I observed. Hall (1959) reported that just plain sitting is doing something in Navajo culture. One of the Navajo children in my sample (Pat) sat throughout the testing situation. Worth and Adair (1973) noted that Navajos avoid face to face eye contact especially with outsiders to Navajo culture. Imagine the feelings of a young Navajo child in a small room with a relative stranger staring at his/her face to explain the testing procedure.

Cole and Scribner (1974) support this author's view that it is extremely difficult to evaluate the sources of variation when individuals from another culture do not respond to standardized tests in the same way that middle- or upper-class Americans do. Further, in most institutional uses of standardized tests, no attempt is made to even consider the sources of such variation. Irvine and Carroll (1980) have convincingly argued that it is possible to devise forms of testing which will display the

ability to accurately assess cognitive abilities across cultural boundaries. However, this author's experience illustrates the fact that standardized tests in current use in existing educational institutions produce cross-cultural data which is difficult to interpret and culturally biased.

END NOTES

[1] All correlation coefficients and probabilities in this monograph were determined by weighted product-moment correlations using the Statistical Analysis System, designed and implemented by A.J. Barr and J.H. Goodnight, Department of Statistics, North Carolina State University, 1972. Computing assistance was obtained from the Health Sciences Computing Facility, UCLA, supported by NIH Special Research Resources Grant RR-3.

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